



City of Roxboro

Mr. David C. Whitehurst
Dept. Environmental Quality
PO Box 1105
Richmond, Virginia 23218

Reference: Raw Water Intake
City of Roxboro, NC


Subject: Petition to Protect the Waters of the Dan River

Dear David,

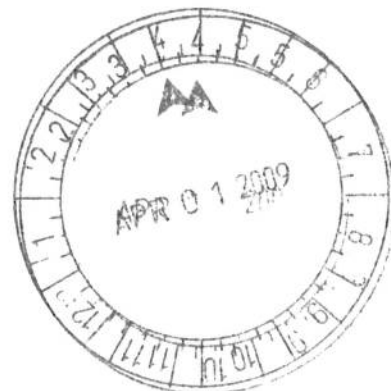
Attached is the City of Roxboro's petition to the State of Virginia for regulating protections on the Dan River. The City of Roxboro is currently processing a request for reclassification of the Dan River to support the proposed raw water intake that will be located in North Carolina approximately 3,200 ft. upstream from Hwy. 62. A portion of the Dan River within the ten mile run of the river will be within Virginia and the City is requesting protection of the water quality in accordance with Virginia State Regulations.

Please review the petition for completeness and if acceptable please process accordingly. If there are any questions, please contact us for additional information.

Sincerely,


Mr. Thomas J. Brown
Mayor City of Roxboro, NC

Cc Elizabeth Kountis NC DEQ
Donald T. Garbrick Pease Associates





City of Roxboro

Petition for Classification of Dan River

City of Roxboro, NC - Raw Water Intake

Co Petitioners Town of Yanceyville, NC, Caswell County, NC and Person County, NC

Purpose

The City of Roxboro NC is proposing a raw water intake on the Dan River approx. 3,200 ft. upstream of NC Hwy 62. Within a ten mile radius of the intake structure the Dan River meanders from North Carolina into Virginia for a distance of approximately one mile. Refer to attached "Figure No. 1". The State of North Carolina is currently processing a reclassification of the Dan River in North Carolina and is requesting Virginia take the necessary steps to protect the quality of water in the Virginia within the ten mile run of the river. The legal authority for DEQ to take action to amend the WQS is 62.1-44.15 of the Code of Virginia. The method to petition follows the Virginia Administrative Code VA WQS, 9VAC 25-260 and 9VAC 25-11-60.

Petitioner's Identification

City of Roxboro
PO Box 128
Roxboro, North Carolina 27573-0128

Contact: Mr. Tom Brown
Mayor

Phone No.: 336-599-3116

Statement of Need and Justification

The extreme drought of 2002 and Homeland Security Act have prompted public water providers throughout the state of North Carolina to develop alternative water supply sources and inter-local connections for emergency use. Another severe drought, loss of a dam due to hurricane or vandalism, or contamination incident could render one or more existing water supply sources in Person County or Caswell County temporarily or permanently unusable. Consequently, need for the project must consider the possibility that the proposed Dan River intake could be a sole source supply for these two counties and their three municipalities should their existing reservoirs or wells be

damaged or depleted. In addition, existing water supply sources may be inadequate if one or more major bulk water customers locate in Person County or Caswell County.

Roxboro/Person County Existing Water Supplies

Roxboro's two existing raw water sources are Lake Isaac Walton (Roxboro City Lake), and impoundment on Storys Creek with 10 square miles drainage basin area (dba), and South Hyco Creek, with 56 square miles dba at the intake. The South Hyco Creek intake is located near the US 158 bridge, four miles downstream of Lake Roxboro (23 square miles (dba) and one mile upstream of Hyco Lake. Storys Creek and South Hyco are both tributaries of Hyco River, which flows into Kerr Lake in Virginia, 25 miles below Hyco Lake Dam. The South Hyco Creek intake pumps raw water eastward to Satterfield Creek upstream of Lake Isaac Walton (City Lake), and from there water is pumped to Roxboro's 8.0 MGD municipal WTP located one mile southeast of Lake Isaac Walton. No modifications to the existing intakes and pump facilities are included in this project.

The South Hyco Creek and Storys Creek watersheds are in the Carolina Slate Belt hydrologic area, with mean annual stream flow averaging 0.9 cfs per square mile and 7Q10 base flow averaging 0.005 cfs per square mile. These are among the lowest average flows and base flows in North Carolina. The 20-year safe yield flows calculated for Roxboro's existing intakes are 3.20 MGD at Lake Isaac Walton and 7.80 MGD at South Hyco Creek, providing a combined safe yield of 11.0 MGD. The safe yield of these sources will decrease as storage volume is gradually lost due to sediment accumulation.

Yanceyville/Caswell County Existing Water Supplies

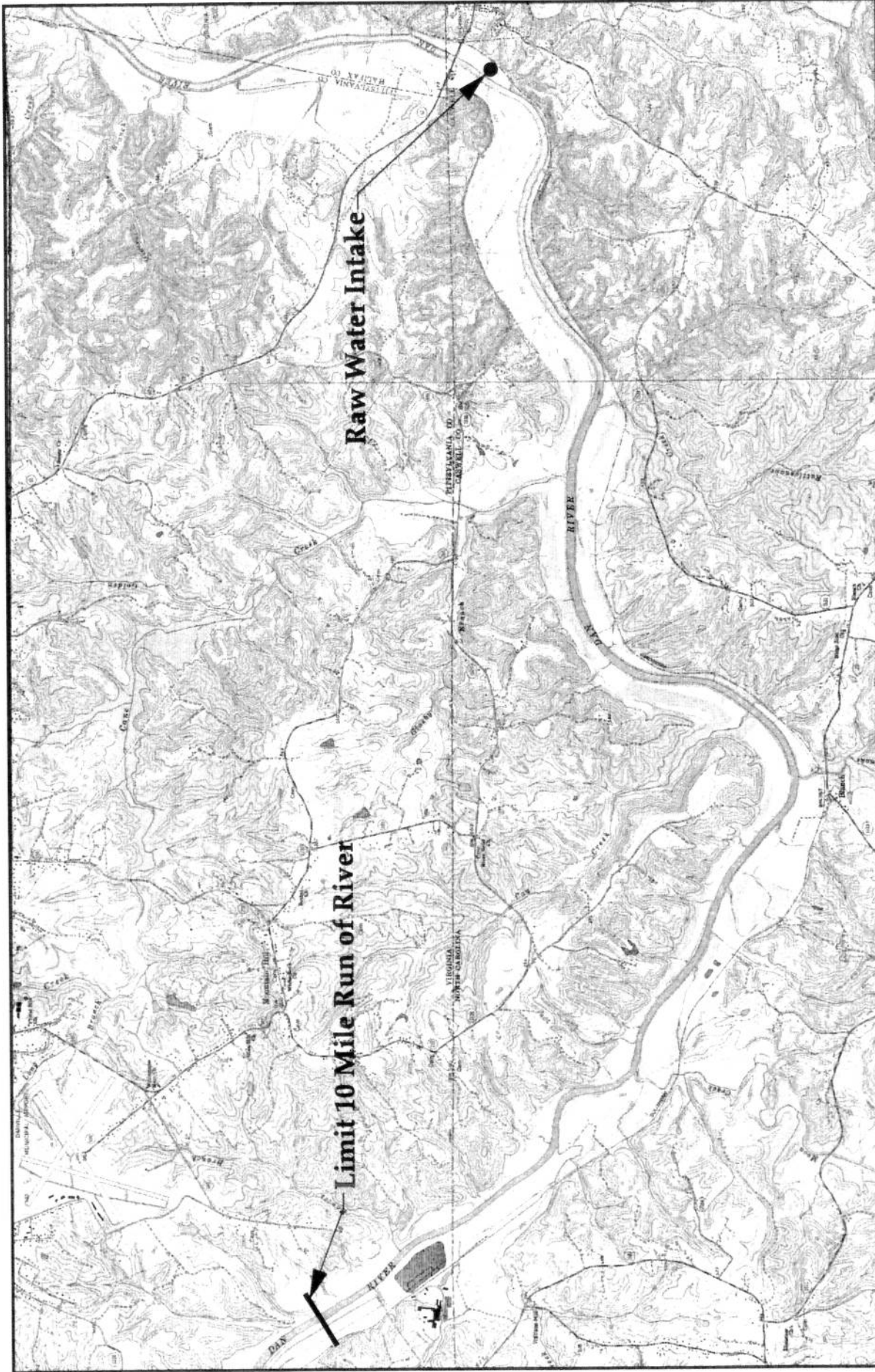
Yanceyville's primary raw water supply reservoir is Farmer Lake, and impoundment on Country Line Creek with 46.5 square miles dba and usable storage capacity of 1.0 billion gallons. The source has largely replaced the Town's older Fuller Creek reservoir with a 1.7 square miles dba. Fuller Creek reservoir is available for emergency use but is not routinely used due to its limited yield and generally poorer water quality. Water flows by gravity from Farmer Lake to a pump station beside Fuller Creek reservoir. From this point it is pumped to the Towns WTP. A prolonged drought or the needs of major bulk water customer could lower the water level in Farmer Lake to an elevation at which gravity flow to the pump station would be inadequate. Yanceyville has no raw or potable water connection with other local governments, and Caswell County has no public water system.

Growth and Water Demand

Roxboro's and Yanceyville's water demand is expected to increase due to residential, commercial and industrial growth in the existing service area. Initially the proposed Dan River raw water intake will serve as an emergency connection when and if a condition exists that prevents use of the current facilities the supplemental source will be obtained from the Dan River Intake.

Summary

The City of Roxboro and its regional partners are requesting the State of Virginia assistance in protecting the waters of the Dan River within a ten mile run of the river from the proposed intake site located in North Carolina. The State of North Carolina is currently processing a reclassification of the Dan River within North Carolina to a WS-IV and petition Virginia to amend current regulations to protect the Dan River for approximately one mile in Virginia.



City of Roxboro

Dan River Raw Water Intake

Figure No. 1

2005037



Pease
Architects - Engineers